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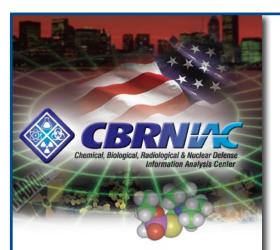
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2010 Conference

March 22-24, 2010 Hilton Alexandria Old Town Alexandria, Virginia

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Table of Contents Volume 10 Number 4







2009

4 Disaster Exercise Tests Medical Response Capabilities

6 We're on the Move...To a New Location!

7 Success of the Chemical, Biological, Radiological and Nuclear (CBRN) Unmanned Ground Reconnaissance (CUGR) Advanced Concept Technology Demonstration (ACTD) Attributed to Leadership

9 New Membership Year for the NBC Industry Group

10 Collaborative Research Facility Dedication

13 Calendar of Events

14 Contract Awards

15 CBIRF Marines Hone Consequence Management Skills

16 MRICD-Led Effort Results in Publication of Comprehensive Textbook

16 New Defense Threat Reduction Agency Director Named

17 MRICD Breaks Ground on New Building

18 New CBRNIAC Information Resources

19 Cyanide Expert Retires

20 In the News

21 History of Army Chemical and Biological Decontamination – Part VI

23 New CBRNIAC Products

On the Cover: Photos courtesy of Ms. Inga Peterson, HQ Air Force Space Command.

The *CBRNIAC Newsletter*, a quarterly publication of the CBRNIAC, is a public release, unlimited distribution forum for chemical, biological, radiological and nuclear defense information. It is distributed in hardcopy format and posted in Portable Document Format (PDF) on the CBRNIAC Homepage.

The CBRNIAC welcomes unsolicited articles on topics that fall within its mission scope. All articles submitted for publication consideration must be cleared for public release prior to submission. The CBRNIAC reserves the right to reject or edit submissions. For each issue, articles must be received by the following dates:

• First Quarter (Number 1) - October 15th

• Third Quarter (Number 3) – April 15th

• Second Quarter (Number 2) – January 15th

• Fourth Quarter (Number 4) – July 15th

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Disaster Exercise Tests Medical Response Capabilities

by Ms. JoAnn Legendre and Ms. Kristin Normandie, CBRNIAC Subject Matter Experts (SMEs) in support of HQ Air Force Space Command

suspicious van spraying an unknown substance out the window is spotted driving around a military installation. Security Forces receives the report and tries to apprehend the van, but the driver speeds away. The chase results in a high-speed crash and explosion near a crowded area, leaving nearly 100 casualties. This is a typical scenario used to drive the Medical Emergency Response Capability Assessment and Training (MERCAT) delivered to Medical Treatment Facilities (MTFs) within Air Force Space Command (AFSPC).

The development of the MERCAT is a collaborative effort that was spearheaded by Headquarters Air Force Space Command (HQ AFSPC). The full-scale exercise was the vision of Lt. Col Paul Legendre, former HQ AFSPC Home Station Medical Response Program Element Manager and Command Bioenvironmental Engineer. Lt. Col Legendre envisioned the MERCAT to be a medical exercise like no other—an exercise that would progress in a "crawl, walk, run" method and conclude with a full-scale

Medical First Responders, Triaging and Stablilizing Victims at the Incident Scene

medical exercise requiring response from all MTF disaster teams. With support from the AFPSC Surgeon's Office, and in collaboration with CBRNIAC Subject Matter Expert (SME), Ms. Joli Garcia, they were able to make this vision a reality. The MERCAT planning team has since grown to include 10 CBRNIAC SMEs from Battelle assigned to HQ AFSPC and various MTFs throughout the Command and in the Colorado Springs office, as well as the subcontractor, Alliance Solutions Group. The team has devoted countless hours to the exercise design and implementation; and to-date has conducted six MERCATs at AFSPC installations.

Initial MERCAT activities are conducted as a "crawl," with an array of critical didactic trainings ranging from triage and treatment of blast

casualties to an overview of the Air Force's Incident Management System. Shortly thereafter, the teams put their knowledge to the test in a "rehearsal" environment. The teams practice their specific response capabilities and gather immediate feedback from the AFSPC cadre. The MERCAT culminates at the end of the week with a full-scale mass casualty exercise as the "run" portion. It is designed to stress the



Gross Patient Decontamination at the Incident Scene

disaster response capabilities of MTF personnel and push them to their limits. The MTF disaster teams respond with "boots on the ground," functioning as though the scenario is a real-world event. Responders exercise their capabilities to the fullest extent possible—minimizing the amount of simulation and combining all the MTF disaster teams together in one coordinated response. The sheer magnitude of the MERCAT requires joint support and coordination between the MTF, fire department, civilian ambulance service, and community emergency response agencies. Thus, the MERCAT benefits the entire community as the military and civilian responders learn from each other and practice the integration of their medical response capabilities.

Enthusiastic volunteers, complete with realistic moulage and casualty information cards, make up the 100 casualties used to overwhelm the responders. Additionally, clinical personnel coach the volunteer "victims" on their injuries and how to act out their symptoms, adding to the realism and stress of the situation. The mass number of volunteers and eager actors enhances the chaotic event that is representative of what would occur during a real disaster. MTF personnel do not encounter this influx of patients or this severity of wounds in their day-to-day operations. The MERCAT provides the opportunity for personnel to test their skills and assets before they are needed for a true mass casualty incident.

Disaster Exercise cont.

Exercise response activities begin with the installation Fire Department and simulated Security Forces arriving at the incident scene. The base Fire Chief assumes his normal role as the Incident Commander for Command and Control of the responders in the field and the MTF activates the Medical Control Center to provide command and communications for the MTF teams within the clinic. Because an unknown substance has been released, the Incident Commander requests the Bioenvironmental Engineer (BE) Response Team from the MTF to respond and assess the situation and identify what has been released. All other disaster response teams at the MTF are also activated and poised to receive casualties and provide other services needed during a mass casualty incident.

The Fire Department begins preliminary triage and gross decontamination of victims at the scene. Due to the large number of patients, the Incident Commander requests the Field Response Team from the MTF to respond to the incident scene to accomplish triage and stabilization of the casualties. The most critical patients are transported by civilian ambulance to hospitals in the community.

Statistics gathered from real-world mass casualty incidents (including Chemical, Biological, Radiological, and Nuclear (CBRN)) have proven that a large number of victims flee the incident scene and self-report to clinics or hospitals where they know medical care will be available. The response teams poised at the MTF are designed to receive the self-reporters and provide appropriate and expedient care. The In-Place



Patient Decontamination (IPPD) Team sets up outside of the MTF to decontaminate those victims that may have escaped the scene. This capability utilizes the portable TVI Decontamination Shelter to accomplish a more thorough, efficient decontamination of both litter and ambulatory patients. All patients reporting to the clinic must be decontaminated before being granted access to medical care within the facility. After decontamination, the patients are re-triaged and sent to teams inside where they receive care in the immediate, delayed, and minimal triage areas. Minimal patients can be treated, observed for a brief period, and then returned to home or duty. Immediate and delayed patients receive further stabilization, treatment, and observation while awaiting transport to a higher level of care in the community or other military or VA facilities. None of the MTFs within AFSPC have inpatient treatment capabilities, so

immediate and delayed patients are only "on hold." These patients will be transferred to other facilities via civilian ambulance or Aeromedical Evacuation. In rare instances, patients can be transferred using vehicles of opportunity only if this method will not compromise their condition.

In cooperation with the Laboratory Biological Detection Team (LBDT) at the MTF, the BE Team is able to identify the unknown substance being sprayed from the van, as anthrax. The presumptive identification then drives the need for mass prophylaxis. A final component of the MERCAT requires the MTF to exercise their Point of Dispensing (POD) capabilities. They set up the POD and provide antibiotic prophylaxis according to their mass prophylaxis protocols. The goal of the POD is to deliver appropriate emergency medication services in an orderly, expeditious and safe manner to a large group of patients.

MTFs Air Force-wide have supplies and equipment in place that are designed to provide the capabilities described to care for up to 300 patients for 24 hours. It is assumed that military MTFs will have little to no outside assistance during the first 24 hours of a response. This assumption is based on the fact that due to Force Protection Condition (FPCON) changes, the gates to the base may be closed, greatly slowing emergency responders. Additionally, local medical facilities may be overwhelmed with the response in the community. After this time, it is assumed that aid from local, state, and federal agencies will be available to assist in the response.

The MERCAT incident scenario is based on the occurrence of a CBRN event on the military installation. However, the same medical response capabilities could be used for a natural or manmade disaster, including major accidents. MTF personnel would also respond to any CBRN event whether it is the result of terrorist activity or a HAZMAT release/spill due to other causes.

Medical response capabilities are never perfect or static. The MERCAT Exercise provides the means to implement plans and identify shortfalls and gaps, and then take the appropriate corrective measures before a real-world incident occurs. Commanders and exercise participants alike have expressed their gratitude for having this opportunity to test their skills. The value of training can never be overestimated. This challenge leaves military medical personnel with

Continued pg. 6



Identifying the Biological Agent, Utilizing the Joint Biological Agent Identification and Diagnostic System (JBAIDS)

Disaster Exercise cont.

a sense of confidence that they do have what it takes to execute a mass casualty incident response effectively—successfully saving lives and protecting military assets.

The MERCAT Exercise has been conducted at Patrick AFB, Florida; FE Warren AFB, Wyoming; Vandenberg AFB, California; Los Angeles AFB, California; Malmstrom AFB, Montana; and Buckley AFB, Colorado. In each instance, rave reviews were received from the military installations and the civilian community.

We have little control over the healthcare issues caused by disasters, and experts tell us that it is not a matter of IF a terrorist event will occur in this country, but rather WHEN will the next terrorist event occur. When disasters occur, at the end of the day it is medical capability that will be needed. The MERCAT Exercise plays a part in helping to ensure that medical care will be available at MTFs within AFSPC.

For additional information on the MERCAT Exercise, please contact Lt. Col Tim Mukoda, timothy.mukoda@peterson.af.mil or Ms. Joli Garcia, joli.garcia.ctr@peterson.af.mil.

More information about the Air Force Space Command can be found online at http://www.afspc.af.mil/.

Photographs courtesy of Ms. Inga Peterson, HQ Air Force Space Command.

About the Authors:

Ms. Legendre is a CBRNIAC SME, a Protection Operations Specialist III with Battelle, and a registered nurse. Ms. Legendre has decades of experience as a nurse and three years of experience in emergency management/disaster response. As a CBRNIAC SME, she has provided Medical Counter-CBRN technical support to HQ Air Force Space Command, the National Guard Bureau, and U.S. Northern Command.

Ms. Normandie is a CBRNIAC SME with Battelle and is currently supporting the HQ Air Force Space Command Medical Counter – CBRN program in Colorado Springs, Colorado. She has nearly 10 years of Air Force All-Hazard planning, training, and exercise experience and is the lead trainer for the mass prophylaxis/point of dispensing (POD) portion of the MERCAT.

Are you coordinating or participating in a CBRN-related exercise or activity that you would like highlighted in the CBRNIAC Newsletter?

Please review the article submission guidelines on the CBRNIAC Web site at https://www.cbrniac.apgea.army.mil/Products/Newsletter/SubmissionGuidelines/Pages/default.aspx and then contact us at NewsletterEditor@battelle.org.



We're on the Move... To a New Location!

After 23 years on the Edgewood Area of Aberdeen Proving Ground, Maryland, the CBRNIAC main office is relocating to Aberdeen, Maryland as of December 2009.

What will change?

You will find the CBRNIAC main office at the following street address:

1204 Technology Drive Aberdeen, MD 21001

Desk phone numbers for individual staff members will be reassigned.

What will stay the same?

Our main office phone number (410-676-9030), fax number (410-676-9703), general email address (cbrniac@battelle.org) and URL (http://www.cbrniac.apgea.army.mil) will all remain the same. We are still keeping our P.O. Box at the Gunpowder Post Office, so you can use either address for U.S. postal mail. Use the new address for UPS and FedEx.

The CBRNIAC staff will continue to offer the same high quality products and services to the CBRN Defense and Homeland Security communities from this new location. Visitors will still be welcome. Please continue to contact us for authoritative CBRN Defense and Homeland Security scientific and technical information, analysis and support.

Bringing Together the CBRN
Defense and Homeland
Security Communities





Success of the Chemical, Biological, Radiological and Nuclear (CBRN) Unmanned Ground Reconnaissance (CUGR) Advanced Concept Technology Demonstration (ACTD) Attributed to Leadership

By Colonel Humberto E. Galarraga

or the past five years, Peter F. Annunziato has worked on behalf of the U.S. Army Edgewood Chemical Biological Center (ECBC) to ensure the success of CUGR. In his role as Technical Manager, Annunziato assured the success of demonstrating the value of providing state-of-the-art CBRN detection technology into the hands of the warfighter at an accelerated pace. This will allow field commanders additional time to establish defensive capabilities to counter the rapidly evolving conditions on the battlefield.

These efforts recently earned Annunziato, supervisor of ECBC's Advanced Technology Demonstration (ATD) Team, a gold award in the "Outstanding Supervisor Grades 13 and Above" category of the 2009 Excellence in Federal Career Awards given by the Baltimore Federal Executive Board (FEB).

"Mr. Annunziato's efforts and sacrifices leading to the accomplishments realized on behalf of our warfighters reflect positively upon himself and ECBC," said the Director, Engineering Directorate, Alvin D. Thornton. "These on-going efforts have cemented strong collaborations and mutually beneficial relationships with our clients. Mr. Annunziato continues to strive for excellence, raise the bar, and set the example that others would do well to follow. I am happy to convey that Mr. Annunziato makes me extremely proud to serve in my current capacity as Director, Engineering Directorate."

The CUGR, a \$55 million ACTD was sponsored and funded by the Office of the Deputy Under Secretary of Defense for Advanced Systems and Concepts, and by the Defense Threat Reduction Agency Joint Science and Technology Office (DTRA JSTO) from the Chemical Biological Defense Program. The CUGR ACTD purpose was to improve the speed and capability of manned nuclear, biological and chemical (NBC) reconnaissance, and to expand that capability to restricted terrain.

While serving as supervisor of the ATD Team, Annunziato used his unique combination of 21 years of program management experience and technical skill sets to manage a budget that exceeds \$72 million while assembling and managing a highly productive staff of engineers, scientists, contractors, and subject matter experts. All contributed significantly to the success of the four-year CUGR ACTD's two program thrust areas: developing an advanced sensor capability for near real-time chemical detection and identification for manned platforms and demonstrating the military utility of unmanned platforms for CBRN reconnaissance.



Peter F. Annunziato is the recipient of the 2009 Baltimore Federal Executive Board Gold Award for "Outstanding Supervisor, Grades 13 and Above."

The objective of the first thrust area, improving the speed and capability of manned NBC reconnaissance vehicles, replaces the current double wheeled sampling system with the Joint Contaminated Surface Detector (JCSD). The JCSD employs ultraviolet laser technology to detect and identify liquid and solid chemical contamination on the ground by measuring their Raman backscatter. Chemicals on target surfaces are interrogated by the laser and contaminants in the field of view are identified through analysis of their return signal against a wide library of Raman spectra. The speed of the laser technology will permit current and future CBRN reconnaissance assets to keep pace with maneuver forces, which is a marked improvement over existing technology.

In the second thrust, to expand NBC reconnaissance capability in restricted terrain, the objective was met through the introduction of the CBRN Unmanned Ground Vehicle (CUGV), a small short-range reconnaissance robot. Sensors integrated on the robot will allow it to detect and immediately report chemical and radiological

Continued pg. 8

CUGR cont.

contamination, as well as collect chemical aerosol samples for further analysis. Survey teams will be able to remotely operate the CUGV from within a reconnaissance vehicle or from a protected position. This will eliminate the requirement for the warfighter to manually perform reconnaissance operations in potentially hazardous environments and minimize exposure to contamination.

"These cutting-edge enhancements also provide the combatant commander with continuous and critical CBRN situational awareness while reducing the risk to maneuver and support forces," said Col. Humberto Galarraga, ECBC Detection Decontamination Engineering Group Leader. "As the current threat scenario continues to evolve in Iraq, Afghanistan, and across other potential fronts in the Global War on Terrorism, this technology will help ensure that warfighters have the best equipment possible to detect and defend against chemical and biological weapons."

As a result of his responsiveness and understanding of the CBRN community, DTRA JSTO recently assigned Annunziato as the Technical Manager for four new ATDs in 2009: Hazard Mitigation, Materiel and Equipment Restoration; Military Applications in Reconnaissance and Surveillance for Joint Force Protection; Rapid Area Sensitive-Site Reconnaissance; and Automated Detailed Equipment Decontamination for Land Vehicles.

Under his direct supervision, the CUGV transitioned one year ahead of schedule and under budget by approximately \$3.18 million. Four government organizations received the CUGV technology for continuation into production and fielding: Joint Project Manager NBC Contamination Avoidance (JPM NBC CA), Navy Explosive Ordnance Disposal Technical Division, Future Combat Systems Small Unmanned Ground Vehicle, and Joint Product Manager Consequence Management. Annunziato has also provided the CUGV to industry for commercialization. Annunziato's leadership of this thrust resulted in the expeditious transition of the CUGV, which improves the conduct of

dismounted ground reconnaissance and sensitive site assessment by robotic first entry into potentially hostile environments instead of the warfighter. The benefits to the warfighter includes improved detection of liquid and solid chemical warfare (CW) agents, ability to detect at maneuver speed, and protection of warfighters with robotic first entry into sensitive sites.

"This record breaking accomplishment was a direct result of Annunziato's steadfast leadership and focus on the mission," said Col. Galarraga. "He has consistently shown an outstanding ability to balance highly fluid technical-, budgetary- and mission-based requirements and to effectively communicate risks and impacts to all stakeholders."

At the request of the Joint Program Executive Office for Chemical Biological Defense and the DTRA JSTO, the CUGR ACTD included a second System Integration & Demonstration phase to provide JCSD software and hardware enhancements that improved the generation III JCSD system performance and reliability. This in turn resulted in the Operational Manager recommending a favorable Joint Military Utility Assessment. Thanks to Annunziato's dedication and masterful guidance, the JCSD improves upon the current system in its ability to detect and identify liquid and solid traditional CW agents, toxic industrial chemicals, and non-traditional agents consistently at speeds up to 45 miles per hour. This will enable the Stryker NBC Reconnaissance Vehicle to employ the JCSD and detect CW at current operational speeds, a capability that has not existed until now.

Annunziato served as an ambassador for ECBC and for the Army by providing technical presentations and demonstrations of the two CUGR ACTD systems at various conferences and technical workshops. He volunteered to be the Research Development and Engineering Command Mobility—Logistics Technology Focus Team's primary representative for ECBC in 2008, invoking a more active role for the Center.



His focus on quality assurance, quality control, customer satisfaction, and stakeholder requirements has led to significant improvements in stakeholder and program responsiveness.

This year, in order to assure the delivery of JCSD systems for technical and operational tests by their deadlines, Annunziato fostered direct communications between the contractor and stakeholders to ensure that delays, which related to software dependencies, did not negatively impact final delivery. He and his team oversaw the re-baseline of

Continued pg. 9

CUGR cont.

system algorithms software and hardware in conjunction with the DTRA JSTO to successfully execute this program, under very tight program constraints and deadlines.

Annunziato ensured that the daily metrics were tracked and achieved, resulting in the turn-around of the program and ensuring delivery by the revised schedule without impact to the stakeholder. He has also provided leadership for the revised JCSD Technical Readiness Definitions and built consensus with JPM NBC CA in support of these revisions.

Annunziato's open communication style, willingness to work through issues in a professional and focused manner, and his dedication to both client satisfaction and the overall mission have allowed him to be extremely successful in his interactions with all stakeholders and in the enhancement of ECBC's reputation in the CBRN community. His commitment to his own staff's development and career progression has also earned him the respect and loyalty of everyone supporting his programs. His open dialogue and forthright nature have been instrumental in enabling Annunziato to create an environment of professional excellence, affording all of his engineers and staff the opportunity to contribute and excel.

In addition to his 38 years of federal service, Annunziato's career also includes an associate's degree in chemical engineering technology from Temple University, a bachelor's degree in chemical engineering from the University of Dayton and a master's degree in engineering management from George Washington University. Annunziato has been a member of the Army Acquisition Corps since 1992 and has previously been the recipient of three Performance Awards from 2006 through 2008 for excellent leadership of the CUGR ACTD, a Special Act Service Award and numerous commendations from the Army Materiel Command. He was also named one of Soldier Biological Chemical Command's 10 Best Engineers of the Year in 2001.

During this year's FEB Awards ceremony, Annunziato was among 238 outstanding federal employees honored during the culmination of agency and installation activities recognizing Public Service Recognition Week. Founded in 1969, the Baltimore-based charter currently covers a geographic region comprised of more than 73,000 civilian, military, and postal workers.

Author's Biography

Colonel Humberto E. Galarraga is the U.S. Army Edgewood Chemical Biological Center Detection Decontamination Engineering Group Leader. Col. Galarraga is a graduate of South Miami Senior High School and the recipient of a three-year Army Reserve Officers' Training Corps Scholarship to the University of Miami in which he earned a Bachelor of Science degree in Chemistry in 1981. Additionally, Col. Galarraga obtained an Engineering Management Professional Certificate and a Master of Science in Environmental Chemistry from the University of Maryland in 1991 and 1993 respectively.

For more information:

CUGR ACTD Brochure (PDF)
http://www.ecbc.army.mil/ps/download/CUGR_Brochure.pdf

Go to the CUGR ACTD Web Site http://www.cugractd.rdecom.army.mil/

New Membership Year for the NBC Industry Group

he NBC Industry Group is an association of over 130 companies and organizations supporting nuclear, biological, and chemical defense. Members include large



and small commercial companies, product manufacturers, systems integrators, not-for-profit organizations and consultants who focus on the CBRN community. In addition to military defense against chemical and biological warfare, interests of the group encompass domestic preparedness against chemical and biological terrorism as well as the Chemical Weapons Convention and other treaties.

The organization's mission is to inform and educate the federal, state and local Governments on NBC defense matters relating to combating WMD, combating terrorism, and homeland security as well as to advance the development of NBC defense capabilities that enable the U.S. Armed Forces to carry out their global and domestic responsibilities.

Neil Cohen, Director of Defense Group Inc.'s CoBRA software division and newest elected board member says, "This is an extremely exciting time to be supporting the NBC industry." There are many changes occurring within the DoD CBRN leadership and the need for new and innovative tools to combat the CBRN threat is great.

There is great camaraderie among the members and the NBC industry in general and the meetings are a great way to meet up, network, and sometimes find teaming partners for upcoming government contracts.

The NBC Industry Group usually meets on the third Thursday of each month at Fort Myer, Virginia to exchange information on current events in the area and discuss emerging trends and requirements. Most meetings include invited speakers from key Congressional committees, the Office of the Secretary of Defense, the Military Services, or other agencies that have a role in NBC defense.

More info on NBC Industry Group, as well as membership application, can be found at: http://www.nbcindustrygroup.com/

The NBC Industry Group's **Products and Services Handbook** can be found online at http://www.nbcindustrygroup.com/handbook.htm

Collaborative Research Facility Dedication

By Cindy Kronman, MRICD

n July 17, the U.S. Army Medical Research Institute of Chemical Defense (MRICD) officially opened its Collaborative Research Facility (CRF) and dedicated the building to Dr. Brennie E. Hackley, Jr., who served as the Institute's chief scientist and scientific advisor from 1984 until his death in 2006.

The CRF is a multimillion-dollar 6,800 square-foot research facility designed to serve as a venue to support collaboration with entities external to the MRICD, including research partners in industry, academia, and government. The CRF makes it possible for these extramural researchers to conduct collaborative experiments using dilute chemical threat agents.

During the ribbon cutting ceremonies, MRICD's commander, Col. Harry F. Slife, Jr., described how a building once used to house goats became the Institute's newest research asset. In the post-911 era, he explained, scientists from a variety

of venues became interested in the medical chemical defense research program, but were limited in the types of studies they could conduct because of restrictions and regulatory requirements concerning the use of chemical threat agents. Many saw collaboration with MRICD scientists, who could conduct the agent portion of the studies, as the solution.

As a result, Slife said, "Investigators at this Institute found themselves inundated with collaborative requests from outside agencies and sister laboratories within MRMC. These collaborations required a significant time investment on ICD investigators, taking them away from their own research projects to oversee agent use activities for these collaborative efforts."

In 2002, MRICD started looking for a solution; the result was a recommendation to dedicate separate resources for collaborative studies rather than to use internal resources. The idea of a collaborative research facility was born. Now the question was, how does this idea become a reality? Discussions began with the National Institutes of Health and Dr. Ernest Takafuji, director for Biodefense Research at the National Institute of Allergy and Infectious Diseases (NIAID), NIH, Bethesda, Maryland, as well as a former commander of the MRICD.



Mrs. Ethel Hackley and Col. Harry F. Slife, Jr., MRICD commander, unveil the plaque dedicating the institute's Collaborative Research Facility to the late Dr. Brennie E. Hackley, Jr. USAMRICD 1950–2006. With Mrs. Hackley are her daughter, Michele Johnson, her son Brennie III, and her sister-in-law Oglivia Abernathy. Photo by Cary Sisolak, USAMRICD.

"[Takafuji's] unique perspective, having served here at the Institute while in uniform, coupled with his responsibilities

at NIAID allowed him to appreciate the potential value for this facility and how it could provide a needed niche for the program," said Slife.

USAMRICD

According to Takafuji, Congress, the Department of Homeland Security and the Department of Health and Human Services all recognized the need for collaboration in research. But, Takafuji continued, NIH resources could not be the sole solution; much of the expertise and experience, especially when it came to research on radiation and chemical and biological agents, were in DoD.

The challenge lay in figuring out how to bring together various government departments, each with its own culture, to get them thinking along the lines of collaboration, and to convince them to financially support the creation of such a facility in an era of tight budgets. Not even moving the money from one department to another, explained Takafuji, was an easy task.

Despite these challenges, all the departments involved, through the highest levels of the federal government, recognized that a dedicated facility was, said Takafuji, "in the best interest of the nation."



In these coordinating efforts, Takafuji worked closely with Dr. Gennady E. Platoff, Jr., Office of Biodefense Research at NIAID, and a former commander of MRICD as well.

The resulting facility is the culmination of their efforts, as well as of the hard work of several young officers at MRICD who managed the project for the Institute, and the efforts of MRICD facilities manager, Denise Hott. Most notably among the series of MRICD managers is LTC Maurice Sipos, who as a captain recommended the solution of a separate facility to accommodate collaborative efforts and who, during subsequent assignments at MRICD, worked on various stages of the project. He is now chief of MRICD's Research Division in which the Collaborative Research Facility Branch is a part.

"The CRF stands ready to provide a venue for scientists to participate in a program they might never had had the opportunity otherwise due to regulatory restrictions, budget limitations, or the lack of program or administrative tools," said Slife at the ribbon cutting.

Following the ribbon cutting, came the building's dedication.

It was fitting, said Slife, that the CRF, which was created so that the institute could "reach out to a greater population of contributors" should be dedicated to Dr. Brennie E. Hackley, Jr., whose dream it was "to reach out, to interact with an international community" and who was so well respected in that international community.

That respect grew out of his long career in federal service and his own important contributions to the medical chemical defense research program. After receiving a B.S. in chemistry from Wilberforce University, Hackley enlisted in the Army and was later commissioned in the Army Officer Corps. Hackley retired from the Army Reserves at the rank of colonel after 30 years. His civilian career began in the Medicinal Chemistry Branch of the Army Chemical Command in 1950. In 1954, he earned an M.S. and in 1957 a Ph.D. in chemistry from the University of Delaware.

Among Hackley's significant contributions to the medical chemical defense program, noted Slife, was his exploration and synthesis of a number of oximes. Even today, MRICD scientists are exploring this "library of oximes" in efforts to field alternative therapeutic measures for exposure to chemical warfare nerve agents. Hackley's vast experience and historical knowledge of the program also made him an invaluable resource when it came to new projects. He could always be counted on "to attest to what was done in that area previously and to steer us in the right direction," said Slife.

"Dr. Hackley continues to influence the work here every day," concluded Slife. "He is sorely missed not only for his scientific expertise but because of his camaraderie and his friendship."

As a former MRICD commander, Takafuji also had first-hand experience with Hackley's knowledge and expertise.

"It was really a tremendous pleasure for me to hear that a decision had been made to dedicate this building in the honor of my very dear friend and collaborator, Dr. Brennie Hackley," said Takafuji. "It's not just a building. What it represents is an effort and a commitment that people like Brennie had."

Among the Hackley family present at the ceremony were his widow, Ethel, his daughter, Michele Johnson, his son Brennie III, two of his grandchildren, Brandon and Erin Johnson, and his sisters, Frances Hackley, Kathleen Petty, and Oglivia Abernathy with her husband, Thomas. The Hackleys also have another son, Michael, who was not able to attend the event.

Speaking on behalf of her mother and the rest of the family, Johnson addressed the guests, "We are so grateful and thank you very much for this wonderful honor that you've bestowed upon us and my dad. He, to the end, loved the people that were here, the intellectual stimulation, the opportunity to mentor, the opportunity to make an impact in people's lives in small and large ways, and this is very gratifying to the family to realize that sometimes good efforts and moral efforts are rewarded. Good luck with this facility, which is sorely needed to merge government, industry, and academia."

After the ceremony, the Hackley family and guests were invited to tour the new facility.

Visit U.S. Army MRICD online at http://chemdef.apgea.army.mil/.



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Towson University's Forensic Science Undergraduate and Graduate (MSFS) Programs provide exceptional learning experiences and shared research for students and forensic professionals. Students receive instruction using state-of-the-art scientific equipment and facilities preparing them for forensic science and related technical jobs. A significant component of the program is job-related experience gained through student internships sponsored by forensic and other scientific laboratories. The internships offer students the opportunity to put into practice the knowledge gained through on campus studies while at the same time assisting the sponsoring organization with research, validation, data collection and processing and other assignments. We are seeking organizations who will offer our students this opportunity.



For Program & Internship Information Contact:

Mark Profili-Director, Forensic Science Department of Chemistry 8000 York Road

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Towson's MSFS program is one of only four Forensic Science PSM programs in the country.

Calendar of Events

Do you have a CBRN Defense or Homeland Security course or event to add to our Calendar? Submit the pertinent information via email to cbrniac@battelle.org. The CBRNIAC reserves the right to reject submissions. For a more extensive list of events, view our online calendar at https://www.cbrniac.apgea.army.mil/Products/Events/Pages/default.aspx.

Jan 20–21	2010 Biometrics Conference Arlington, VA	Mar 18–19	Cyber Security — Legal and Policy Issues for National Security, Law Enforcement
	http://eweb.ndia.org/eweb/DynamicPage.aspx?Site		and Private Industry
	=ndia&Webcode=EventList		San Antonio, TX
	nada woxoodo Eroneso		http://www.stmarytx.edu/ctl/index.php?site=center
Feb 1–2	Counter CBRN Operations		ForTerrorismLawCyberSecurity
	London, UK		
	http://www.smi-online.co.uk/events/overview.	Mar 22–24	DTIC 2010
	asp?is=1&ref=3340		Alexandria, VA
			http://www.dtic.mil/dtic/annualconf/2010Home.
Feb 1–3	2010 Annual Conference on Antimicrobial Resistance		html
	Bethesda, MD	Mar 23–24	GovSec and U.S. Law
	http://www.nfid.org/conferences/resistance10/		Washington, DC
			http://www.govsecinfo.com/Home.aspx
Feb 3–5	National Evacuation Conference		
	New Orleans, LA	Mar 29–30	Homeland Security—Global and Domestic
	http://www.nationalevacuationconference.org/		Perspectives
Feb 8–10	CBRN Defense 2010		Warrensburg, MO http://www.ucmo.edu/cjinst/Call%20for%20
reb 6-10	Washington, DC		Paperspdf
	http://www.cbrnevent.com/Event.aspx?id=230504		rupers .pui
	http://www.comevent.com/Event.aspx:id=230304		
Feb 9–11	Annual SO/LIC Symposium & Exhibition		
	Washington, DC		
	http://www.ndia.org/meetings/0880/Pages/default.		
	aspx		
Feb 22–26	COURSE: Field Management of Chemical		
	and Biological Casualties		



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Volume 10 Number 4 CBRNIAC Newsletter 2009

Charlotte, NC

http://www.cleanearthtech.com/news.htm

Aberdeen Proving Ground, MD

brochureFCBC.htm

NAVEXFOR 2010

Virginia Beach, VA

Abu Dhabi, UAE

Mar 1-3

Mar 1-3

Mar 14-19

www.cbrniac.apgea.army.mil

https://ccc.apgea.army.mil/courses/in_house/

http://defensetradeshows.com/navexfor-2010/

(ISNR) Exhibition & Conference

http://www.isnrabudhabi.com/home.aspx

COURSE: Medical Management of

Chemical and Biological Casualties
Ft. Detrick and Aberdeen Proving Ground, MD
https://ccc.apgea.army.mil/courses/in_house/

International Security National Resilience

BrochureMCBC.htm



Procurement of Non-Lethal Portable Vehicle Immobilization Devices

General Dynamics OTS, Inc.

Bothell, WA

\$13,274,349 September 21, 2009

By U.S. Army Joint Munitions & Lethality Contracting Center, Picatinny,

Develop Semiconductor Automated Tools That Detect Biological, Chemical, and Environmental Hazards That May Affect the Health of Soldiers

CombiMatrix, Mukilteo, WA

\$1,500,000 September 14, 2009

By U.S. Air Force Research Laboratory, Wright-Patterson Air Force Base,

ОН

Exploring the Natural Immune Responses to Bacillus Anthracis

Oklahoma Medical Research Foundation

Oklahoma City, OK

\$14,500,000 September 3, 2009

By National Institute of Allergy and Infectious Diseases, Bethesda, MD

Business and Analytical Support to the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) Systems

Kalman & Company, Inc.

Virginia Beach, VA

\$7,521,660 September 3, 2009

By U.S. Marine Corps System Command, Quantico, VA

Research ST-246 as a Treatment for Adverse Reaction to Smallpox **Vaccine**

SIGA Technologies, Inc.

New York, NY

\$3,000,000 September 2, 2009

By National Institutes of Health, Bethesda, MD

Develop a High Performance Computing System to Support a DNA Repository of High Threat Infectious Agents

CME Group, Incorporated

Castle Hills, TX

\$7,851,000 September 1, 2009

By AFRL/PKHB, Wright-Patterson AFB, OH

Provide a Chemical Agent Monitoring System Based on MINICAMS®

CMS Field Products

Pelham, AL

\$5,680,000 August 28, 2009

By Bechtel National, Inc., San Francisco, CA

Design/Bid/Build P-269 Consolidated Emergency Control Center, Portsmouth Naval Shipyard, Kittery, Maine

Consigli Construction Company

Milford, MA

\$ 9,039,138 August 27, 2009

By NAVFAC MID-ATLANTIC Naval Facilities Engineering Command,

Norfolk, VA

Development of an Advanced Information Solution to Assist First Responders Investigating Hazardous Crime Scenes

MacDonald, Dettwiler and Associates Ltd.

Richmond, British Columbia

\$2,000,000 August 25, 2009

By Defence Research and Development Canada - Centre for Security

Science, Ottawa, Ontario, Canada

Develop Inhaled Antiviral for Prophylaxis and Treatment of Smallpox

Nanotherapeutics, Inc.

Alachua, FL

\$30,900,000 August 24, 2009

By National Institute of Allergy and Infectious Diseases, Bethesda, MD

Design Prototype to Provide Surge Capacity to Mass Casualty Incidents Such as Terrorist Attacks, Pandemic Flu, Natural and **Accidental Disasters**

Cipher Systems, LLC

Crofton, MD

\$9,291,882 August 21, 2009

By Defense Threat Reduction Agency BE-BCR, Fort Belvoir, VA

Construct the U.S. Army Medical Research Institute of Chemical **Defense Medical Facility**

Clark Construction Group, LLC

Bethesda, MD

\$230,681,000 August 12, 2009

By U.S. Army Corps of Engineers—Baltimore District, Baltimore, MD

Multi-Purpose Chemical Warfare Agent (CWA) Detectors and Other **Devices**

Environics Oy

Mikkeli, Finland

Multi-million Euro contract award

August 7, 2009

By Army of India

Chemistry Analyzer Accessories and Reagents

Abaxis, Inc. Union City, CA

\$38,338,817

August 4, 2009

By Defense Supply Center Philadelphia (DSCP), Philadelphia, PA

Creation of Devices With Molecular Recognition Elements (MREs) That Will Detect Explosive, Chemical and Biological Warfare

West Virginia University

Morgantown, WV

\$409,000 July 31, 2009

By U.S. Army Research Laboratory, Adelphi, MD

Pier Radiological Surveys and Pier Removal at Hunters Point **Shipyard**

ERS JV

Sacramento, CA

\$6,802,665 July 28, 2009

By Naval Facilities Engineering Command, Southwest, San Diego, CA

CBIRF Marines Hone Consequence Management Skills

By Sgt. Leslie Palmer, CBIRF Public Affairs

n 1996, Gen. Charles C. Krulak, 31st Commandant of the Marine Corps, helped organize Chemical Biological Incident Response Force (CBIRF), II Marine Expeditionary Force, in response to chemical, biological, radiological, nuclear and high-yield explosive (CBRNE) incidents. CBIRF took on the mission and is one of the only response units in the military with nearly 13 years of experience in CBRNE consequence management.

To brush up on a few of those consequence management skills, CBIRF Marines and sailors conducted a training exercise at the McMillan Water Treatment Facility in Washington D.C., July 15, 2009.

"Training is the baseline for everything," said Capt. James Arrasmith, officer-in-charge, Company A, CBIRF. "If we don't have the right training, we're not going to be able to respond appropriately. That's why we try to put together realistic training scenarios and work our guys pretty hard."

Training at CBIRF can take any Marine out his comfort zone and challenge him. For Sgt. Chad Milo, a decontamination team leader with Company A, training at CBIRF forces him to think outside the box.

"Without proficiency, you're going to lose lives," said the infantryman by trade. "If you're not consistent, you're not going to be proficient and you're going to have people die because they don't have the proper training."

CBIRF is unique for the hospital corpsman and medical officers who must provide medical care in contaminated areas. Though dangerous and complicated, providing on-scene care can greatly increase a casualty's chances of survival; no other response unit in the United States does [this].

"It's a different scope of care. Here, [medical personnel] deal more with CBRNE casualties, as opposed to being a fleet corpsman, where we deal more with combat injuries," said Navy Petty Officer 2nd Class Michael Tate, a hospital corpsman with Headquarters and Service Company, CBIRF.

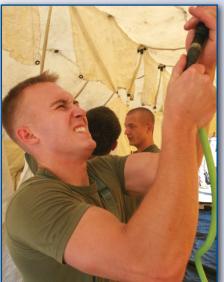
Training at CBIRF consists of multiple field operations, classes such as the three-week long Chemical Biological Incident Response Force Basic Operations Course and live-agent training in Canada.

"[CBIRF Marines and sailors] do anything between force protection lane training, site set-up and lots of classes," Milo explained. "Whatever it takes to get the Marines trained up on what to do."

For more information on the II Marine Expeditionary Force, visit the unit's Web site at www.iimefpublic.usmc.mil.



Pfc. Emil Reinwald, a decontamination technician with Company A, CBIRF, II Marine Expeditionary Force, assembles the non-ambulatory decontamination line, so casualties on stretchers can be effectively decontaminated, during a training exercise at the McMillan Water Treatment Facility in Washington, D.C., July 15, 2009. During a chemical, biological, radiological, nuclear, or high-yield explosive incident, many casualties will probably be unable to walk. So, CBIRF has a system where Marines can decontaminate those who will be debilitated.



Petty Officer 2nd Class Michael
Tate, a hospital corpsman with
Headquarters and Service
Company, CBIRF, II Marine
Expeditionary Force, assembles
a gurney for the medical
stabilization tent corpsmen and
medical officers respond to
chemical, biological, radiological,
nuclear, and high-yield explosive
incidents with CBIRF Marines
and provide medical care in the
contaminated area.



Sgt. Scott McCague, decontamination team leader, Company A, CBIRF, II Marine Expeditionary Force, attaches a water hose to the decontamination tent. Casualties from a high-yield explosive incident are decontaminated at this location.

MRICD-Led Effort Results in Publication of Comprehensive Textbook

by Cindy Kronman, MRICD

wo years of effort by many individuals at the U.S. Army Medical Research Institute of Chemical Defense (MRICD) came to fruition recently with the publication of the second edition of the Medical Aspects of Chemical Warfare. The volume is one of 18 in the series Textbooks of Military Medicine, which is produced by the Borden Institute, an agency of the U.S. Army Medical Department Center and School.

Lt. Col. Shirley D. Tuorinsky, who during the volume's preparation was a member of MRICD's Chemical Casualty Care Division, served as the senior editor of the book, and MRICD's Dr. Margaret Filbert, now retired, served as the associate editor. Other support for the book's preparation was provided by operational security, editorial, graphics, and library staff members.



Many of MRICD's scientists and medical professionals served as subject matter editors and peer review board members for the volume. In addition, they authored or coauthored nearly all of the book's 23 chapters, which discuss various types of chemical warfare agents, decontamination, long-term health effects, triage of chemical casualties, and chemical detection equipment. Historical perspectives of chemical warfare, including the history of the chemical threat and of the medical management of chemical casualties, are also provided. Moreover, this second edition goes further than the first to discuss therapeutic measures and medical diagnostics as well as domestic preparedness.

The textbook is dedicated to the memory of two notable MRICD employees: Dr. Frederick Sidell, who is responsible for developing chemical defense training and education, and Dr. Brennie E. Hackley, Jr., MRICD's former scientific advisor as well as an instructor for the institute's training in the medical management of chemical casualties, who made significant contributions to the medical chemical defense research program.

Lt. Gen. Eric B. Schoomaker, The Surgeon General of the Army, calls the textbook "the most comprehensive source of information available on chemical agents."

Maj. Gen. George Weightman, former commander, U.S. Army Medical Research and Materiel Command, said of the textbook, "This expanded second edition will not only continue to be an essential reference tool for the military, but should also become a requisite guide for civilian health care providers, for first responders, and for government agencies responsible for emergency preparedness, response, and management."

According to the Borden Institute, active duty Soldiers are eligible for one free copy of the text, which can be ordered from www. bordeninstitute.army.mil. The textbook is also available for purchase from the Government Printing Office.

New Defense Threat Reduction Agency Director Named

enneth A. Myers III has been selected as the new director, Defense Threat Reduction Agency (DTRA). He was sworn in July 27, 2009, at the Pentagon.

Undersecretary of Defense for Acquisition, Technology and Logistics, Ashton B. Carter, said, "The selection of Ken Myers as the director of DTRA is another significant step



in transforming how we defend against the threat of weapons of mass destruction. He has the right background with 15 years of hands-on nonproliferation, counter-proliferation and arms control experience at the national level to lead the agency in its mission to protect the United States and its allies from weapons of mass destruction (WMD) and support a safe, secure and reliable deterrent." Carter added that Myers also brings experience with the Moscow and START treaties; export controls; the U.S.—India Peaceful Atomic Energy Cooperation Act; and Cooperative Proliferation Detection, Interdiction Assistance, and Conventional Threat Reduction Act.

Myers most recently served as a senior professional staff member on the Senate Committee on Foreign Relations. In this position, he serves as the senior advisor to Sen. Richard G. Lugar, the committee's ranking member, on European, former Soviet and Central Asian Affairs, and the Caucasus. He joined the committee in 2003.

Myers earned his bachelors degree from Virginia Polytechnic Institute and State University and a masters degree from the Catholic University of America.

DTRA is a Department of Defense combat support agency with an annual budget of more than \$2.8 billion and a military/civilian workforce of approximately 1,900. DTRA focuses on reducing the threat of weapons of mass destruction through a combination of advanced technology programs and innovative operational methods. Several technologies developed at DTRA have made significant impact in Afghanistan and Iraq. DTRA also has an integral role in several international WMD-related treaty verification programs.

DTRA headquarters is located at Fort Belvoir, Virginia. The agency operates field offices in Alexandria, Virginia; Albuquerque, New Mexico; and San Francisco, California. Overseas locations include Darmstadt, Germany; London, United Kingdom; Almaty, Kazakhstan; Tashkent, Uzbekistan; Moscow and Votkinsk, Russia; Kiev, Ukraine; and Yokota, Japan.

The original press release can be viewed online at: http://www.defenselink.mil/releases/release.aspx?releaseid=12853

MRICD Breaks Ground on New Building

by Cindy Kronman, MRICD

he U.S. Army Medical Research Institute of Chemical Defense (MRICD) held a groundbreaking ceremony for its new replacement facility at the Edgewood Area of Aberdeen Proving Ground (APG) on September 15. Hosted by Maj. Gen. James K. Gilman, commander of the U.S. Army Medical Research and Materiel Command, MRICD's parent organization, the ceremony included a keynote address by Lt. Gen. Eric B. Schoomaker, commanding general of the U.S. Army Medical Command and the Army Surgeon General.

"This new state-of-the art laboratory is going to be home to some of our nation's leading experts, and the world's leading experts, as they continue this all important work in research, education, and developing and sharing knowledge that is going to mitigate the effects of chemical weapons," said Schoomaker as he addressed the crowd of 400 public officials, Army and recapitalization project representatives, and employees. "The lessons that are found here and are shared from this lab are going to make the world safer for not only its warriors

but for America's citizens and for the global human family."

Among the APG officials participating in the ceremony were Mr. Richard Decker, technical director of the Edgewood Chemical Biological Center, who was representing the installation commander, Maj. Gen. Paul S. Izzo, and Col. Orlando Ortiz, the garrison commander. Mr. Turhan Robinson, Maryland's civilian aide to the secretary of the Army, and Brig. Gen. Timothy K. Adams, commander, U.S. Army Center for Health Promotion and Preventive Medicine and a former commander of MRICD, were among the guests. Harford County Executive David Craig attended the groundbreaking, along with county council members Dion Guthrie, Mary Ann Lisant, James V. McMahan, Jr. and Chad Shrodes. Representatives from the offices of Sens. Barbara A. Mikulski and Benjamin L. Cardin and Reps. Dutch Ruppersberger and Roscoe Bartlett also attended, as did state Sen. Barry Glassman and Ms. Asuntha Chiang-Smith, executive director for Governor Martin O'Malley's BRAC sub-cabinet.

Budgeted at over \$300 million and scheduled for completion in 2013, the new 526,000-square-foot facility will consolidate numerous dispersed structures into a single modern, energy efficient building with a central utility plant. Additionally, the improved research laboratories and training facilities will be able to accommodate 395 employees.

"The design of the new ICD will enhance communications, collaborations and cooperation," said Gilman. "It will provide



Key individuals from APG and the organizations involved in the recapitalization of the MRICD participated in the ceremonial turning of dirt: (from left to right) Mike Bednarczyk, corporate officer from Clark Construction; John A. Becker, director, Portfolio Planning and Management Division (Facilities), Tricare Management Activity; Col. Orlando Ortiz, commander, APG Garrison; Col. Harry F. Slife, Jr., commander, MRICD; Lt. Gen. Eric B. Schoomaker, commander, MEDCOM and the Army Surgeon General; Maj. Gen. James K. Gilman, commander, MRMC; Richard Decker, technical director of ECBC, representing Maj. Gen. Paul S. Izzo; Col. David Anderson, commander and district engineer, Baltimore District U.S. Army Corps of Engineers; Trillis Birdseye, director, Project Management Division, Health Facilities Planning Agency; Jerry Polly, FLAD Architects; Sgt 1st Class John Evans, senior enlisted advisor, MRICD, who represented MRICD Soldiers in honor of the Year of the NCO. (Photo by Cary Sisolak, USAMRICD)

collaborative space that is flexible and adaptable to future research priorities and technologies."

These design factors will be important for recruiting and retaining quality employees to carry out the institute's mission, Gilman pointed out. "It is the people inside, not the building itself, who have carried on the work of the ICD for so many years."

"Simply put," said Gilman, "ICD is great people doing the research necessary to protect us from attacks that many prefer not to even think about. It is appropriate that they will soon have a place to work that matches their level of service and dedication to a tough and too often thankless mission."

For Col. Harry F. Slife, MRICD's commander, the day was "truly aweinspiring" and "a great day in MRICD's history."

"I think an even better day for the beneficiaries of what we do," said Slife. "I am confident that as exceptional as the U.S. Army Medical Research Institute of Chemical Defense has been in delivering products to the warfighter, our best days are ahead of us."

MRICD is the Department of Defense lead laboratory for research to identify new or improved medical countermeasures against chemical warfare agents and for training DoD and other health care professionals in the medical management of chemical warfare agent casualties.



New CBRNIAC Information Resources



Schulz-Kirchrath, Stefan. **Compendium: Biological Warfare Agents**. Elztal-Rittersbach,
Germany: OWR AG, 2008.

"Due to the increasing threat of terrorist attacks, biological warfare agents play an important role in public defence. This compendium summarizes the most important facts from biology, medicine and pharmacy and allows for comprehensive and quick access in case of emergencies." (Summary)

CB-077625 OWR AG Oberschefflenzer Str. 9 74834 Elztal-Rittersbach Germany

Phone: +49 (0) 6293 73-231

Schulz-Kirchrath, Stefan. **Compendium: Chemical Warfare Agents**. Elztal-Rittersbach, Germany: OWR AG, 2006.

"The present compendium will serve as a quick and comprehensive means of information about the most important facts of chemical warfare agents. Apart from an overview of the physiochemical characteristics it also gives detailed advice for first response measures and further medical therapy as well as for decontamination. However, this compendium should not be treated as a replacement for the relevant textbooks, but rather as a compact reference book for practical administering." (Summary)

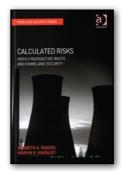


CB-077627 OWR AG Oberschefflenzer Str. 9 74834 Elztal-Rittersbach

Germany

Phone: +49 (0) 6293 73-231

Rogers, Kenneth and Marvin Kingsley. **Calculated Risks: Highly Radioactive Waste and Homeland Security**. Burlington, VT: Ashgate Publishing Company, 2007.



"This well documented study examines one of the increasingly pressing problems for U.S. homeland security: the storage and management of radioactive waste.... This book explores nuclear waste problems through the broader lens of federal, state and local government and the resultant constraints on policy that emerge within the American political system. Presenting specific case studies to highlight the deficiencies in current policy and planning, as well as the

possibility of terrorist activity, it is highly suited to courses on security studies and environmental politics." (Back cover)

CB-088059 Ashgate Publishing Company Suite 420 101 Cherry Street Burlington, VT 05401-4405

Assessing Damage, Urging Action: Report of the Eminent Jurists Panel on Terrorism, Counter-terrorism and Human Rights. Geneva, Switzerland: International Commission of Jurists, 2009. http://ejp.icj.org/IMG/EJP-Report.pdf

"After a study taking approximately three years, with sixteen national and regional Hearings, involving some forty countries we now publish our report. Wherever we went we encountered two themes. There is a need for action to combat terrorism, but a concern about the harm being done by the methods used for this purpose... The report details what we heard and the reasons for our concern." (Preface)

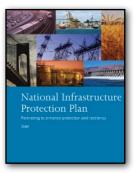


CB-083669 ISBN 978-92-9037-138-2 International Commission of Jurists P.O. Box 91 33 Rue des Bains CH-1211 Geneva 8 Switzerland

Phone: +41(0)22 979-38-00

National Infrastructure Protection Plan: Partnering to Enhance Protection and Resiliency. Washington, DC: U.S. Department of Homeland Security, 2009.

http://www.dhs.gov/xlibrary/assets/NIPP_Plan.pdf



"Protecting and ensuring the resiliency of the critical infrastructure and key resources (CIKR) of the United States is essential to the Nation's security, public health and safety, economic vitality, and way of life....The NIPP [National Security Infrastructure Protection Plan] provides the unifying structure for the integration of existing and future CIKR protection efforts and resiliency strategies into a single national program to achieve this goal." (Executive Summary)

CB-083941 Office of Infrastructure Protection U.S. Department of Homeland Security Washington, DC 20528

Phone: 202-282-8000

Cyanide Expert Retires

By Cindy Kronman, MRICD

Research Institute of Chemical Research Institute of Chemical Defense (MRICD) said goodbye to one of its most prolific scientists. Dr. Steven I. Baskin, who retired from federal service after 27 years, was a pharmacologist/toxicologist at the Institute and an expert on the chemical warfare agent cyanide. His research through the years significantly contributed to the development of therapeutics and diagnostics for cyanide intoxication.

For MRICD's commander, Col. Harry F. Slife, Jr., who had also once been Baskin's division chief, Baskin was a source of information and ideas, and a sounding board. As Slife explained, "he had an understanding of what we're trying to do here." Slife called Baskin a true patriot for dedicating his career to the defense of his country and for continually contributing to the chemical defense research program.

Slife also credited the seminal cyanide research of Baskin, as well as of his

colleague MRICD scientist Dr. Gary Rockwood, for attracting to the Institute funding from the National Institutes of Health for the development of cyanide antidotes as part of NIH's efforts to provide medical countermeasures to protect the civilian population in the event of a terrorist attack with chemical weapons.

These sentiments were echoed by Dr. Gennady Platoff, a former commander of MRICD, who serves as the scientific advisor and assistant director of The Office of Biodefense Research at NIH. Platoff acknowledged the efforts of Baskin and Rockwood for getting NIH's cyanide program off the ground.

At the recent retirement ceremony for Baskin, Platoff described him as "incredibly imaginative," a sentiment echoed by another MRICD scientist, Dr. William Smith. According to Smith, Baskin was "full of ideas" and so familiar with his toxicology peers and knowledgeable about various types of chemicals that Smith often referred to him as a "walking phone book of toxicologists" and a "walking pharmacopedia."

Baskin began working at MRICD in 1982, bringing with him a specialization in cardiovascular and neuro-endocrine research. He had graduated with honors from the University of Southern California in 1966 with a doctor of pharmacy degree, and received his Ph.D. in pharmacology and toxicology from The Ohio State University, Columbus, Ohio, in 1971. He then conducted his postdoctoral training at Michigan State University (1971–1973). Before being recruited by MRICD, Baskin worked as an associate professor at the Medical College of Pennsylvania.



Dr. Steven Baskin is presented with a memento of his years at MRICD by fellow principal investigator and collaborator Dr. Gary Rockwood. Photo by J. Adam Wyatt, MRICD

Baskin is a Diplomate of the American Board of Toxicology and a Fellow in the Academy of Toxicological Sciences. He has edited or coedited six peer-review scientific publications and has been an author or coauthor of more than 100 scientific publications and presentations. In addition, he has written 6 books, 58 book chapters, and 24 technical reports.

At his retirement ceremony, Baskin was presented with a Department of the Army Certificate of Achievement, an MRICD Certificate of Achievement, and a Department of the Army Commander's Award for Civilian Service. Slife presented Baskin with one of his commander's coins, #27, for the number of years Baskin worked at MRICD. At the request of Brig. Gen. Timothy Adams, Slife also presented Baskin with one of the coins from Adams's tenure as MRICD commander. Platoff, too, had received permission to present Baskin with one of his commander coins, and MAJ Matthew Clark, a former branch chief of Baskin's, gave the retiring scientist a coin from the Pentagon, where Clark is currently assigned as deputy chief of capability integration at the Army Asymmetric Warfare Office, Army G-3. The coin from Clark was designed with images representing each of the services, fitting for someone like Baskin who, Clark said, always did "his best by all members of the services." Baskin will also receive from the institute a bound volume of his open literature journal publications.

Aside from Platoff and Clark, other guests at the ceremony were Baskin's son, Lloyd, and Dr. Harry Salem, chief scientist for life sciences at the Edgewood Chemical Biological Center, who worked closely with Baskin on several publications.

In the News

Einstein Scientists Move Closer to a Safer Anthrax Vaccine

Albert Einstein College of Medicine of Yeshiva University Press Release

September 4, 2009

"Researchers at Albert Einstein College of Medicine of Yeshiva University have identified two small protein fragments that could be developed into an anthrax vaccine that may cause fewer side effects than the current vaccine."

http://www.einstein.yu.edu/home/news.asp?id=404

Developed a Systematic Method to Improve the Stability of Antibodies

Argonne National Laboratory Newsroom

September 4, 2009

"Researchers at the U.S. Department of Energy's Argonne National Laboratory have developed a systematic method to improve the stability of antibodies. The technique could lead to better biosensors, disease therapeutics and diagnostic reagents and non-laboratory applications, including environmental remediation." http://www.anl.gov/Media_Center/News/2009/news090903.html

VA Ends Gulf War Illness Research Contract

Suzanne Gamboa

Government Executive.com

August 26, 2009

"The Department of Veterans Affairs has canceled a \$75 million, fiveyear research contract with a Texas medical center studying illnesses suffered by veterans of the first Gulf War."

http://www.govexec.com/story_page.cfm?articleid=43472&dcn=todays news

Anti-Terror Antibodies

RSC Publishing

August 26, 2009

"European scientists have developed a method to detect potential biological warfare agents in food."

http://www.rsc.org/Publishing/Journals/cb/Volume/2009/10/Antiterror_antibodies.asp

Bavarian Nordic in Negotiations With the U.S. Authorities for the Further Development of IMVAMUNE®

Bavarian Nordic Press Release

August 24, 2009

"Bavarian Nordic A/S announced today that the U.S. authorities have initiated negotiations for a new contract to develop a freeze-dried version of the IMVAMUNE® smallpox vaccine."

http://www.bavarian-nordic.com/19-09_UK

NISS to Work on Syndromic Surveillance Project for NSF and DTRA National Institute of Statistical Sciences

August 24, 2009

"The National Science Foundation (NSF) and the Defense Threat Reduction Agency (DTRA) have awarded \$664,019 to the National Institute of Statistical Sciences (NISS) for collaborative research to develop Bayesian methods for syndromic surveillance...The NISS project is one of ten supported by NSF and DTRA under a jointly funded program entitled Algorithms for Threat Detection (ATD)." http://www.niss.org/news/press-release/niss-work-syndromic-surveillance-project-nsf-and-dtra

Biothreat Detection Speeds Up

Emerging Health Threats Forum

August 21, 2009

"A new laboratory test can spot quickly and tell apart in a single run almost all pathogens classified by U.S. authorities as biowarfare agents, say researchers this month in PLoS ONE."

http://www.eht-forum.org/news.html?fileId=news090821123131&from=home&id=0

NNSA Conducts Successful W80 JTA Flight Test

NNSA Press Release

August 18, 2009

"The National Nuclear Security Administration (NNSA), in close working cooperation with the U.S. Air Force, recently conducted a successful test of a Joint Test Assembly (JTA) for the W80 warhead...The purpose of the test was to evaluate overall performance of the nuclear cruise missile weapon system."

http://nnsa.energy.gov/2487.htm

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History of Army Chemical and Biological Decontamination – Part VI

By Jeffery K. Smart, U.S. Army Research, Development and Engineering Command Historian

This article is Part VI of a series of articles extracted from the *History of Army Chemical and Biological Decontamination*, by Mr. Jeffery K. Smart, U.S. Army Research, Development and Engineering Command (RDECOM) Historian, July 2007. This presentation is edited, with permission of the author, for the *CBRNIAC Newsletter*.

THE 1970s

Decontaminating Equipment

M258 Decontamination Kit



The Army standardized the M258 Skin Decontamination Kit in 1975 to replace the earlier M13 Individual Decontaminating and Reimpregnation Kit. While the M13 kit used fuller's earth to absorb liquid chemical agents from the skin, the M258 Kit used two containers of decontamination material to neutralize nerve and blister agents. The kit consisted of an olive drab plastic case holding four gauze pads, two red plastic scrapers, and two plastic capsules

containing decontamination solutions. Decontaminating Solution No. 1 was a solution of hydroxyethane, phenol, sodium hydroxide, and ammonia dissolved in reagent water. Decontaminating Solution No. 2 was a solution of hydroxyethane and zinc chloride in reagent water. Within the No. 2 capsule was a separate sealed glass ampoule holding dry chloramine B. Both decontamination solutions were poisonous and caustic and thus were unsuitable for wounds or for use in the eyes or mouth. Thus, the kit was designed to decontaminate the skin, but not the face. In an emergency, it could also be used to decontaminate individual equipment. The Army also standardized the M58 Skin

Decontaminating Training Aid along with the M258 kit. The M58 used simulants instead of the actual decontaminating solutions. Due to the caustic aspects of the decontaminants, the M258 kit was obsoleted in 1989.⁵²



THE 1980s

Decontaminating Agent

German C8 Emulsion

Starting in the early 1980s, the U.S. Army examined a German decontaminating agent as a possible replacement for DS2 and STB bleach for use in the M12A1 Decontaminating Apparatus. Known as German C8 Emulsion, it consisted of perchloroethylene (PCE), calcium hypochlorite, water, and an emulsifier. During initial testing, C8 Emulsion was an effective decontaminant of chemical agents and the toxin designated T2, but set off chemical agent alarms and was clearly visible due to its white color. The main ingredient, PCE, was also a recognized hazardous waste. The Army attempted to find replacements for the PCE and make other changes, but dropped the program in 1987 in favor of ongoing research on the Improved Chemical/Biological Agent Decontaminant.⁵³

Improved Chemical/Biological Agent Decontaminant (ICBAD)

In 1985, the Army initiated a program to develop the Improved Chemical/Biological Agent Decontaminant (ICBAD) using the good aspects of German C8 Emulsion. After attempting to find U.S. suppliers of appropriate ingredients for a new decontaminant, the program concentrated on the same ingredients as the C8 Emulsion, only with green dye for camouflage. Calcium hypochlorite, produced only in Germany, was the major problem. After further attempts to find U.S. suppliers, the ICBAD program was canceled in 1988 in favor of the Multipurpose Chemical Biological Decontaminant program.⁵⁴

Multipurpose Chemical Biological Decontaminant (MCBD)

The Multipurpose Chemical Biological Decontaminant (MCBD) program was initiated in 1982. After over 500 possible decontaminants were examined, the Army concentrated on Fichlor microemulsion as the best candidate. Microemulsions were translucent dispersions containing oil, water, and emulsifier. Further work on the Fichlor microemulsion, however, failed to develop a decontaminant that was better than DS2. Since MCBD contained perchloroethylene, a hazardous waste, and required complicated mixing equipment, the program was terminated in 1989.⁵⁵

Continued pg. 22

History cont.

Decontaminating Agent: Multipurpose (DAM)

Further attempts to use the knowledge learned from the ICBAD and MCBD programs to find a DS2 replacement resulted in the Decontaminating Agent: Multipurpose (DAM) program initiated in 1989. For the next four years, the Army examined various possible ingredients searching for a better decontaminant that was safe for the environment and easily prepared in the field. In all tests, DS2 proved the best overall multipurpose decontaminant. The DAM program was then terminated in 1993.⁵⁶

Decontaminating Equipment

M13 Decontaminating Apparatus

The need for an improved portable vehicle decontaminating apparatus to replace the M11 Decontaminating Apparatus resulted in the Army standardizing the M13 Portable Decontaminating Apparatus in 1983. It consisted of a



hose and wand section with a disposable brush attachment, a manual in-line pump, a disposable 3.7-gallon decontaminant container, and an accessory container. The whole unit weighed 60 pounds when filled and was designed to fit a vehicle's fuel/water can mounting bracket. It used DS2 decontaminant to remove chemical contamination from the sections of all types of vehicles that personnel touch. The scrubber brush was designed to remove mud or soil from the equipment. The primary improvements over the M11 unit were the larger capacity decontaminant container and the scrubbing capability. Problems with the availability and toxicity of DS2 led to the M100 Sorbent Decontamination System, which went into production in 2002, being designated as a replacement for the M13 and its DS2 decontaminant.⁵⁷

XM14 Decontaminating Apparatus



In 1980, the Army initially attempted to improve the M12A1 Decontaminating Apparatus but then made enough changes that the new configuration was designated the XM14 Truck-Mounted Power Driven Decontaminating

Apparatus. It consisted of a steam generator mounted on a 5-ton truck and a vehicle rinse rack designed to decontaminate large combat

vehicles. The storage tank could hold 450 gallons of water or 300 gallons of bleach slurry. The apparatus could decontaminate the ground, spray water for firefighting, and provide personnel showers. Dissatisfaction with the truck-mounted version led to the project being canceled in 1981.⁵⁸

XM15 Decontaminating Apparatus

The requirement for a system to decontaminate the inside of Army vehicles, aircraft, watercraft, and shelters led to the Interior Surface Decontaminating System (ISDS) project, started in 1980. The



same year, the project was redesignated the XM15 Interior Surface Decontaminating Apparatus and concentrated on the use of hot air generated by a diesel-fired burner to decontaminate both chemical and biological agents. A collapsible 10-foot hose delivered the hot air to the contaminated surface. A second hose captured the vaporized agent and blew it out of the interior. After extensive testing at Fort Knox and Dugway Proving Ground, the Army decided to terminate the program in 1986 in favor of a quicker decontamination system.⁵⁹

To be continued in the next issue.

Endnotes

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New CBRNIAC Products

CBRNIAC Forum: CBRN Scientific Information Collaboration

U.S. Government Agencies and Their Contractors Only; For Official Use Only

CR-09-21

\$10.00

February 2009

On February 5, 2009, the CBRNIAC co-hosted a technical forum on "Chemical, Biological, Radiological and Nuclear (CBRN) Scientific Information Collaboration." The purpose of this Forum was to develop consensus statements on ways to enhance sharing of CBRN scientific and technical information in



an interagency environment. Experts in the field of information sharing gathered in Arlington, Virginia to exchange ideas and suggestions for future endeavors that would make relevant and timely CBRN scientific information accessible to the CBRN defense community and Homeland Security professionals without compromising national security. During the afternoon session, attendees were directed to small group breakout sessions to develop "Consensus Statements." Following the breakout sessions, the findings of the discussion groups were summarized in a presentation on "Scientific Information Collaboration Consensus Report Development." The Introductory presentation, five speaker presentations, the consensus statements, "Issues and Findings" and "Overall Recommendations" are included in the CD. CB-087819

CBRNIAC Forum: CBRN Field Analytics

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CR-09-20

\$10.00

December 2008

On December 9, 2008, the CBRNIAC hosted a Technical Forum on "Trends in CBRN Field Analytics" from 8:00 a.m. to 3:30 p.m. at the Strategic Analysis Executive Conference Center in Arlington, Virginia. Cohosted by the Joint Requirements Office for Chemical, Biological,



Radiological and Nuclear (JRO-CBRN)

Defense, the forum featured subject many

Defense, the forum featured subject matter experts (SMEs) in the areas of CBRN field analytics. The slide presentations for each of the topics are included in this CD. *CB-087821*

Environmental Toxicology

U.S. Government Agencies Only; For Official Use Only SOAR-08-23 \$25.00 September 2008

This SOAR was developed to provide operational personnel in the Department of Defense (DoD) and other federal government agencies with toxicological information and guidance for incidents involving the release of chemical, biological, radiological and nuclear (CBRN) agents into the environment. This



document provides general guidance for CBRN incident response actions and serves as a planning aid for personnel responding to a potential CBRN threat. Included in this SOAR are the identifying signs of potential CBRN agent release, the toxicological properties of CBRN agents, general guidance on responding to potential CBRN threats (including detection, exposure management and general medical response), and contact information for organizations with expertise and information on CBRN agents. References and fact sheets on chemical agents, biological agents and toxins are included. *CB-087692*

Chemical Biological Radiological (CBR) Warfare Dissemination Technologies

U.S. Government Agencies Only; Export Controlled; Unclassified

SOAR-08-22 \$25.00

September 2008

This SOAR was developed to address increasing concerns within the force protection and homeland security communities regarding possible release of CBR agents into the environment by terrorists and other parties. Topics addressed in this SOAR include aerosol concepts and definitions, dissemination source



terms, dissemination efficiencies, explosive and pyrotechnic dissemination for CBR materials, bulk liquid dissemination, spray atomization, and dry power dissemination, along with examples and an extensive reference list. *CB-087817*

Look for the latest edition of the CBRNIAC Products Catalog at:

https://www.cbrniac.apgea.army.mil/Products/Catalog/Pages/default.aspx



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"I think one of the more—maybe more significant developments in the last 20 years or so has been the advance of communications technology... How do we communicate better with them [U.S. Defense personnel]? How do we get reactions from them to things that we're doing? How do we get better plugged in with what they're thinking?"

- U.S. DEFENSE SECRETARY ROBERT GATES, 18 JUNE 2009



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